

# LUSSCROFT

THE NORTH DAIRY BRANCH  
OF THE AGRICULTURAL EXPERIMENT STATION  
1931-1970

## GENERAL MANAGEMENT PLAN



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State of New Jersey  
Department of Environmental Protection  
Division of Parks and Forestry  
State Park Service



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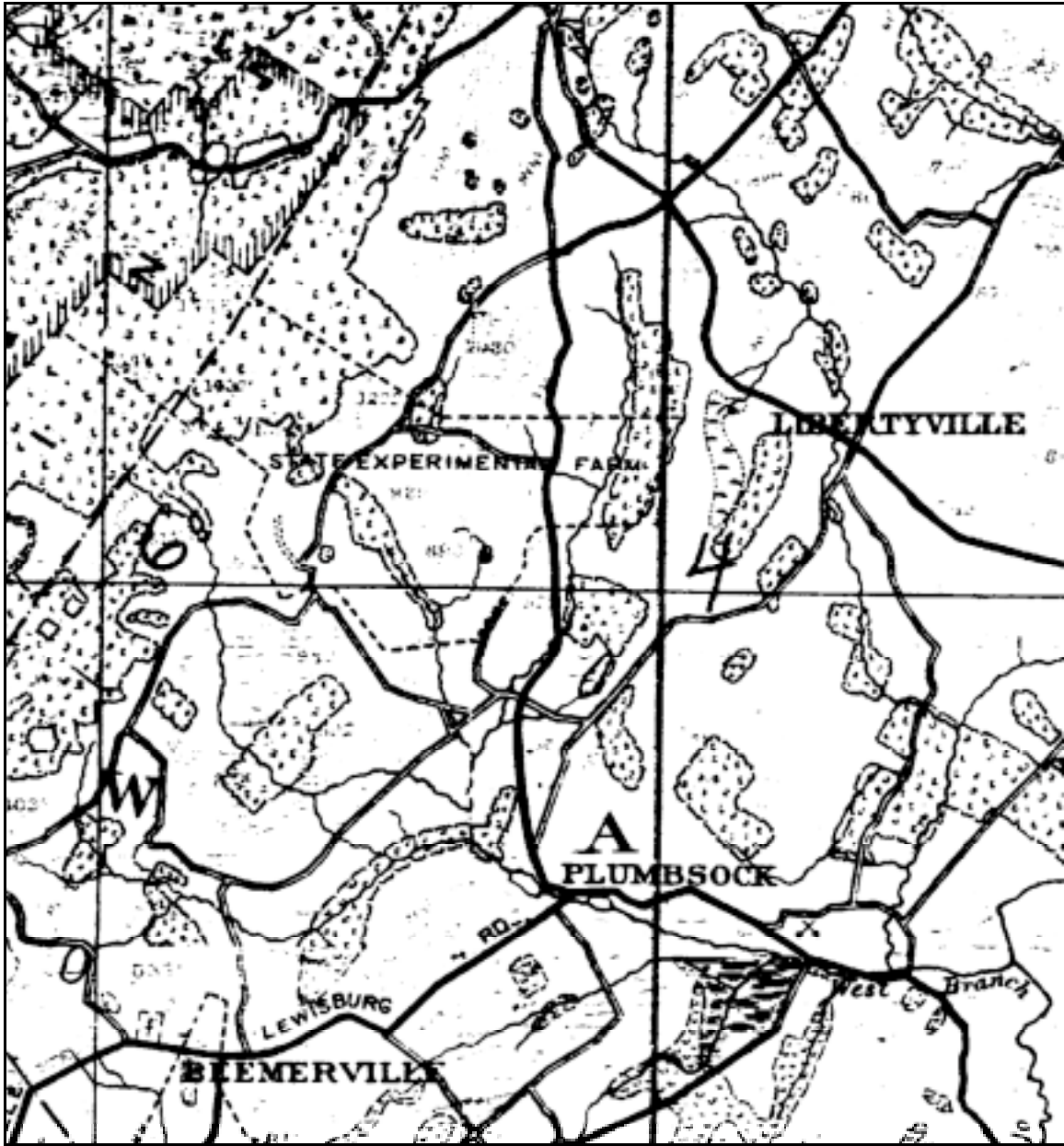


Figure 1. 1946 map by the Department of Conservation and Economic Development, shows location and boundaries of Lusscroft, the North Dairy Branch of the State Agriculture Experiment Station.

## INTRODUCTION

An agro-industrial revolution transformed the American countryside during the latter half of the nineteenth century. While the rise of the industrial city and its attendant suburbs is obvious and more familiar to our eyes, the concurrent impact of this revolution upon our rural heritage is largely unappreciated.

New Jersey began as a bread colony. Its agriculture prospered under the gradual stimulus of a system of internal improvements — turnpikes, canals and railroads — which enlarged its markets, reduced the cost and seasonality of transportation, and brought even marginal lands into cultivation. The Civil War intensified urban industrialization through the introduction of the modern factory system, founded upon rail-transported coal and steam power. No longer dispersed throughout the countryside according to the availability of competent waterpowers, industries concentrated in burgeoning population centers at key hubs in the transportation network. Consumerism in a newly created national marketplace accompanied the rise of mass production. Most crossroads hamlets and streamside mill villages dwindled into obscurity.

Westward expansion brought the Midwestern Plains, a vast expanse of cheap flatlands suited to large-scale mechanized agriculture, into fatal competition with old farms in the immediate hinterland of the Atlantic seaboard. The winnowing effects of this profound economic revolution thundered through farms and factories with the Long Depression, beginning in September 1873. New Jersey farmers only survived by specialization in such perishable foodstuffs as fruit, truck vegetables and dairy products, which could be quickly hauled by rail into city markets. Milk became King in New Jersey's rolling northwestern hill country.

The cavernous dairy barns of northwestern New Jersey, now fading from the landscape, are emblems of the New Agriculture, which took hold in the last quarter of the nineteenth century. Specialization in the production of market milk called for new thinking. The wasteful habits of previous generations, premised upon the seemingly inexhaustible natural fertility of the land and its resources, gave way to a more careful concern for its profitable stewardship. Agronomists and livestock breeders studiously addressed the economic need for greater efficiency and productivity.

Nesting in the Wantage foothills on the headwaters of the West Branch of the Papakating Creek, Lusscroft Farms uniquely preserves two fundamental stages in the revolutionary advance of scientific agriculture. In 1914 stockbroker James Turner spared no expense to design Lusscroft Farms as a perfect working model of efficient dairy farming in an ideal setting. His generous donation of 1,050 acres to the State of New Jersey in 1931 established the North Jersey Dairy Branch of the State Agricultural Experiment Station. Until its closure in 1970, researchers on these grounds made New Jersey a premier state in the development of grassland farming, grass ensilage, artificial livestock breeding and production testing for a safe, healthful milk supply.

From humble beginnings in agriculture and the mechanical arts, New Jersey swiftly became a world center for research and development. The remarkable twentieth-century history of Science enlightening the world (and making life better) lives in Jersey places associated with John Stevens, Thomas Edison, Samuel Morse, Albert Einstein and a host of others (who have not become household names). As explosive population growth places increasing demands

upon our natural resources, the task of researching and developing an ecologically sustainable agriculture particularly grows in significance. Our survival depends upon efficiently extracting the nutritive value of our food resources through knowledgeable stewardship. This story leads back through Luscroft as the impact of the scientific achievements of the former Dairy Research Farm in Frankford and Wantage Townships still echo worldwide.



**Figure 2. View of Luscroft Farms from Neilson Road, looking out across the Kittatinny Valley to the Jersey Highlands. Photograph by Kevin Wright.**

Several tracts of land comprising the former State Agricultural Experiment Station at Beemerville, namely the Belle Ellen, Newbegin and Valley Farms, were turned over to the State Park Service in 1971, shortly after Rutgers University closed its research facilities at these locations. For years the Division of Parks and Forestry negotiated to obtain jurisdiction over the remaining acreage at Luscroft, which Rutgers retained for its 4-H Youth Camp in 1971.

The State of New Jersey officially transferred the administration and management of Luscroft Farms from Rutgers University to the New Jersey Department of Environmental Protection and the State Agriculture Development Committee on January 22, 2002. This transfer encompasses 577.86 acres, including twenty-three original buildings or structures built between 1914 and 1932. The status of another 97 acres comprising the Skellenger farm, acquired in 1955 for Cook College's Forestry Curriculum, remains unresolved.

The options are straightforward enough: without a sense of history, we are condemned to repeat past mistakes. Luscroft Farms offers an equally great opportunity and challenge to teach by example: how a sound stewardship ethic must recognize the present and future value of preserving agriculture in a densely populated region.

High scenic values will attract an audience to Luscroft. Its apparent remoteness works decidedly in its favor, allowing metropolitan day-trippers to enjoy an iconic rural setting within



several hours' travel time. It is a destination that combines great historical interest with abundant natural wonders in all seasons. It can be conveniently linked to other tourist attractions.

The challenge, however, presently obscures the opportunity. This aging farmstead served as a 4-H Youth camp from 1971 through 1996 and suffers from decades of minimal maintenance. Restoration according to nationally recognized historical standards is essential to preserving its character and potential. Of immediate concern, the environmental threats of asbestos shingles, lead paint and underground tanks require remediation. Also, potable water distribution and septic treatment systems must be upgraded or replaced before the public can safely enjoy its attractions. The environmental impacts of any such actions need to be evaluated. Lastly, historic furnishings must be returned to the site as part of the cultural inheritance of the people of New Jersey.

This General Management Plan assesses the significance of the resource, defines its purpose as part of the public estate, describes existing conditions on the ground, and lists visitor-experience objectives compatible with the greatest protection and enjoyment of its resources. Weighing the opportunities inherent in the site against the challenges it presents, we conclude by recommending consideration of several alternatives for its future use.

We commend the public-spirited participation of everyone who contributed either their talents or their enthusiasm to the preparation of this report, namely: Charles Kuperus, Secretary of the New Jersey Department of Agriculture; Glen Vetrano, Sussex County Freeholder; Daniel Wunderlich, Sussex County Agricultural Extension Agent; Donna Traylor, Coordinator, Sussex County Agricultural Development Board; Warren Welsh, former Sussex County Agricultural Extension Agent; Kevin Mitchell, former Director of 4-H Youth Camps; Calvin and Liz Wettstein, former residents and researchers at Lusscroft; George Clark, former resident at Lusscroft; Edwin Francisco, former Supervisor of the Agricultural Experiment Station (1966-1970); Michael Catania, former Director, Nature Conservancy; Albert Joerger and Michael VanClef, of the Skylands Program Office, Nature Conservancy; Lori Space Day, of Space Farms; former Regional Superintendent Louis Cherepy; Interim Regional Superintendent Paul Stern; Regional Superintendent Tom Keck; Regional Maintenance Coordinator Wes Powers; High Point State Park Superintendent John Keator; Rose McDermott, Office Assistant in the Northern Region Office, State Park Service; Professor Richard West; Jack Shuart and Frank Hennion, Assistant Regional Foresters. Kevin Wright, Regional Resource Interpretive Specialist, researched and wrote the plan.

By drafting this General Management Plan, we conclude that the opportunity exceeds the challenge and that Lusscroft should be safe kept for the educational enrichment and enjoyment of present and future generations.

## HISTORICAL AND NATURAL CONTEXT

By Kevin Wright

### *A Natural Grass Country*

The rolling topography of Wantage Township in Sussex County is natural grass country, well suited to raising livestock. From elevated vantages, exhilarating views embrace the broad Kittatinny Valley, bounded eastward by distant round tops forming the Jersey Highlands. The stony loam hereabout is chiefly of glacial origin, composed of till derived from the underlying slate and shale. Low meadows in the flood plains bordering the West Branch of Papakating Creek furnish good pasture and hay fields.

The Papakating Creek probably derives its name from the Minisink words “papeek” and “katti,” which aptly combine to describe “a place of many ponds.” Early cartographers commonly rendered this place-name as “Pepper-cotton,” suggesting its local pronunciation.

A steep shelf along the southeast escarpment of the Blue Mountains, extending for several miles along Neilson Road, is made up of volcanic rock (nepheline syenite), some 440 million years old. It occurs as a huge dike or intrusive mass, two miles long and about one-quarter of a mile wide, wedged between the Martinsburg shale and the Shawangunk conglomerate. It rises abruptly from the flat bench underlain by slates that forms the slope of the mountain east of it to a height of 250 feet (*Geological Survey of New Jersey, Annual Report of the State Geologist for the year 1896*, p. 92) The best exposure is a cliff in the middle of the mass where the old road from the Wyker farm crosses the mountain, eventually intersecting the Appalachian Trail.

The neighborhood boasts another geologic wonder, described as “a circular hill of trap rock, a quarter of a mile in diameter, in which are included many fragments of granite, slate, and limestone.” Rutan Hill (also known as Volcanic Hill) “presents some characteristics of a volcanic plug, the trap rock with the included fragments representing the lava which solidified deep in the throat of the volcanic cone which may once have marked this site.” (J. Volney Lewis and Henry B. Kummel, *Bulletin 50, Geologic Series, The Geology of New Jersey*, 1940, p. 109) Rutan Hill stands south of the intersection of County Route 519 and Neilson Road.

Seated on the foothills of the Blue Mountains, two miles northwest of Beemerville, the grand Turner estate known as Lusscroft occupies a location difficult to surpass for scenic splendor. Four small ponds along the very headwaters of the West Branch of the Papakating bejewel its 776 acres of fine grazing lands, forested slopes, wet meadows, and wooded dells. Its open fields and barns remind us that Milk was once king.

### *Beginnings of the Dairy Industry*

Sussex County was originally a granary, as evidenced by the large number of gristmills along its streams. The Erie Canal, opened in 1825, first brought agricultural commodities from the vast cultivable territory surrounding the Great Lakes into direct market competition with farmlands in the fertile Kittatinny Valley. Cheap water carriage allowed distant bread grains to be sold along the Atlantic seaboard far more cheaply than those produced in the immediate hinterland of many tidewater cities, where transportation costs were tied to poor roads and

difficult topography. Consequently, the principal exports of Sussex County in 1825 were 900 tons of butter, 3,000 tons of pork and other meat on hoof.

Dairies in the Kittatinny Valley were first noted for their production of sweet butter, conveyed in tubs and firkins over rough roads in heavy wagons. Milk, however, was too perishable to make the long, slow trip to market. Once the cream was removed, skimmed milk was mixed with bran to make a “sweet mash” for fattening pork (which could literally walk to market on the hoof). By 1850, agricultural output was largely given over to butter.

G. M. Hopkin's 1860 *Map of Sussex Co., New Jersey* shows the farmhouse of Enos Brink standing near the headwaters of a tributary of the West Branch of Papakating River, along what is now Nielson Road. He purchased land in this neighborhood in 1835 and worked it until his death in 1871. It is said that the Manager's Dwelling on Lusscroft Farm actually predates James Turner's ownership and development of the property, so a remnant of Enos Brink's residence may yet survive.

### *Railroads Stimulate an Economic Revolution*

Before rails connected New York City and its rural hinterland, urban markets were only seasonally supplied with poultry, venison, butter, eggs, pork and other farm commodities. The supply dwindled as winter hindered transportation. By February 1850, the Erie Railroad, passing through the Southern Tier of New York counties, was conveying profuse quantities of farm exports year-round into city markets, contributing greatly to the comforts of city life and enriching rural producers.

Railroads made all the difference and specialization in dairy farming spread because of the improved accessibility to growing metropolitan markets. When the Sussex Railroad first put on a milk train in 1858, it only carried about 50 cans per night. The railroad company completed extensions from Newton to Franklin and Branchville in 1869. In 1870, Sussex County produced 1,317,791 gallons of milk and 1,445,788 pounds of butter. Representatives of city milk dealers constantly came calling, touting the advantages of milk production over the hard work of making butter. Consequently, butter making was largely abandoned, dairies increased, and farmers invested thousands of dollars in producing milk for city markets. By 1874, the milk train on the Sussex Railroad alone carried over 400 milk cans daily and was one of the most profitable on the route. By January 1877, over 1,000 cans of milk were transported daily. By 1880, two locomotives were needed to pull the Midland milk train, consisting of fifteen cars, up the grade from Hamburg to the summit of the mountain above Ogdensburg.

In January 1880, Sussex County milk producers met at the Ward House in Newton to demand up to four cents per quart, though some claimed that milk could not be profitably produced even at that price. Farmers in the various milk centers of Sussex County, representing ownership of over two thousand cows, began to organize local committees. A producers' association on the New York, Susquehanna & Western and Sussex Railroads was formed at Deckertown (Sussex) in February 1880. The New York Milk Exchange was organized at this time, ostensibly for the purpose of harmonizing the interests of producers and city dealers and securing fair compensation for a supply of pure milk.

The New York Milk Exchange soon controlled milk prices, using a butterfat and grade scale. Grades A, B and C were based upon the care, cleanliness and conditions under which the milk

was produced. In August 1880, the Exchange announced a price of 2-1/2 cents per quart. In response, unhappy farmers organized an unsuccessful effort to halt milk shipments. At the Exchange's September meeting, A. Howell, of the Milk Dealer's Union, introduced a resolution, quickly adopted, that allowed milk dealers alone to set the price paid for milk. This prompted the farmers to walk out, beginning a price war that lasted for decades. For the time being, the so-called "Hester Street gang" of New York controlled milk prices.

Sussex and Orange farmers met again in December 1882 at the Court House in Newton to demand that producers have a voice in fixing milk prices. Albert Puder, of Andover, (who resided in the old portion of the stone house presently serving as the office for Kittatinny Valley State Park) was elected president of the newly formed Sussex County Milk Producers Association. It was incorporated on March 5, 1883. The railroad companies immediately offered a concession, announcing that they would return empty milk cans free of charges. They also agreed to place an inspector on the platform to sell all surplus milk; unsold milk would be returned free of charge. To bring the milk dealers into line with their demands, a number of dairy farmers from Sussex, Orange and Sullivan Counties refused to ship their milk. Creameries were prevented from sending what supply they had on hand. A "spilling committee" in Orange County, New York, even resorted to stopping milk wagons and dumping milk cans. Dealers gave in after a week, agreeing to a schedule of price increases. The price reached 3-1/2 cents per quart in March 1885.

The trend toward purebred dairy cattle first gained impetus in New Jersey in the decade from 1890 to 1900. (*State of New Jersey Department of Agriculture, Circular No. 210, New Jersey Breeders of Registered Dairy Cattle*, Trenton: March 1932) Many wealthy families invested in country estates and began the importation of the foundation stock for many important breeds. Purebred Guernsey cattle were introduced to New Jersey around 1880. Purebred Holsteins spread throughout the dairying regions of New Jersey after 1870, with Somerville being the greatest breeding center. Holstein became the predominant breed, being a rugged, good milker. While some cows were pure bred, most were grades.

With land best adapted to pasturage and grasses, milk became the "one big source of income for the whole community" of northwestern New Jersey. But the trend towards agricultural specialization was wrenching for many. Writing on "AN ECONOMIC REVOLUTION" then in progress, Sussex County historian Francis J. Swayze wrote in 1903:

"... I suppose the books of many of our farmers to-day would show that almost all the cash receipts of the farm come from the sale of milk. If we have not suffered from the competition of western agriculture as much as rural counties in New England, we must attribute it to our railroads. Yet we have suffered; the changes of fifty years have been accompanied by a fall in the price of land, which in many instances has led to many hopeless, almost tragic struggles, by men of industry and frugality who have found themselves unable to pay for farms, not through any fault of their own but because they were crushed by the changes which no man could foresee."

Sussex County farmers delivered their milk each morning to rail-side milk depots or creameries operated by New York, Newark and Brooklyn milk companies. Dairy farms situated at a distance from rail facilities either paid the milk company a fixed rate per 100 pounds for hauling

or formed cooperatives to share the cost of transport. In 1917, 211 out of 460 Sussex County farms operated within two miles of a railroad station, while another 100 farms were only distant between 2.1 to 3 miles. Only 67 farms lay more than three miles from a railroad station. Profits materially decreased on dairy farms situated more than four miles from a rail depot.

### *The Rise of Scientific Agriculture and Market Milk Specialization*

According to the 1910 Federal Census, Sussex County was one of the most highly developed dairy regions in the United States, its average of 3,104 quarts per cow greatly exceeding the national average of 2,276 quarts. Being highly specialized, nearly half of all farm operators derived 95% or more of their total income from their livestock. Yet the production of market milk remained barely profitable. Despite an abrupt rise in the retail price of milk, dairymen found themselves losing money as the cost of grain, hay and labor increased. Simply put, feed and labor prices accounted for about 83% of the cost of producing milk. Consequently, dairymen and their families worked for less than the standard wages paid for industrial labor, and could not afford a comfortable living or education for their children. Furthermore, there was no surplus capital to invest in economizing improvements.

An economic crisis brewed. While farmers produced milk at a loss, milk distributors protected their profit margin, claiming that consumers would resist any increase in the retail price. In September 1916, the Board of Directors of the Dairymen's League, meeting in Albany, set their own price schedule for the first time. The sales committees of local branches immediately agreed to follow the restrictions of the central committee in New York City. Some militant League members overturned milk wagons during a tempestuous fourteen-day strike. An agreement was finally reached with Bordens, the Mutual-McDermott Corporation, and the Sheffield Farms-Slawson Decker Company. It was a turning point in New Jersey's agricultural history.

Unfortunately, the hard-won settlement reached by the Dairymen's League was not commensurate with rising production costs, resulting in the sale of many cows. As it cost more to produce milk in South Jersey, entire herds in that region were sold. As high feed and labor costs induced the sale of poorly producing herds, supply decreased, prices improved and the industry was placed on a more profitable basis.

The New Jersey Agricultural Experiment Station, located in New Brunswick, responded to the crisis in July 1917 by publishing *Bulletin 320 (Farm Management Bulletin 3)* on the subject of "Farm Profits and Factors Influencing Farm Profits on 460 Dairy Farms in Sussex County, N. J." Data collected from 160 herds representing the dairy industry of North Jersey concluded that in 1914 the average price of milk in Sussex County was about 3.33 cents per quart, when it cost 4.28 cents to produce. In May 1917, farmers were paid 4.4 cents per quart for Grade B milk (3.4% butterfat), when it cost 6.17 cents to produce.

Alva Agee, New Jersey Secretary of Agriculture, recommended a new approach over time-honored methods of dairy farming. Writing the foreword to *Bulletin Number 16, "Dairy Products Essential to Health,"* in August 1918, he thoughtfully concluded:

"... It is in the interest of all classes of people that farming be placed on a true commercial basis, as is manufacturing, so that producers of food may be able to hold their young people in country life, and to compete with others in the labor market."

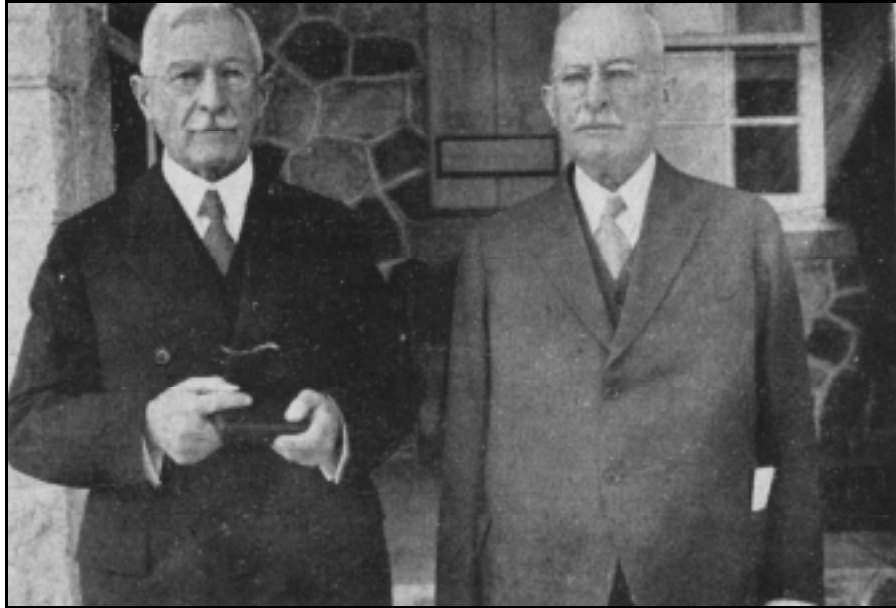
Because of the low margin of profit on market milk, dairy farming clearly needed efficiency engineers to survive. The 1917 survey revealed that cows giving the most milk returned the greatest profits and held the greatest value. Raising better crops allowed more cows to be kept per farm, generating a larger volume of business and greater profits. Better cultivation, more naturally fertile soil, better fertilization and better seed obviously increased crop yields. Lastly, larger farms allowed a more efficient means of operation, generating a larger volume of business from which to make money (*Bulletin 320*, p. 41). A Green Revolution had begun.

Since good cows were the most important single factor in profitable dairy farming, the Agricultural Experiment Station in New Brunswick recommended that poor cows be sold and replaced by purebred or high-grade Holsteins, locally raised through better bulls and better feeding. Such cows were already producing 10,000 to 12,000 pounds of milk annually in some few model herds. Since many farms were overly specialized in the production of market milk, diversification through growing orchard fruits and raising poultry was also encouraged.

### *Lusscroft, A Model Dairy Farm*

Beginning in 1914, James Turner designed and built Lusscroft Farm, sparing no expense, as a perfect demonstration of dairy farming according to the most up-to-date principles of scientific agriculture. In almost every particular, his plan incorporated the recommendations of agronomists and livestock breeders for maximum efficiency, productivity, diversification, and profitability. Typical of several prominent “gentleman farmers” of his day, Turner paid good money to acquire the finest foundation stock for the purpose of breeding the best milking herd. He likewise invested in the best available machinery, buildings, and seed, as well as the most practical modern conveniences, especially, rural electrification.

James Turner was a prosperous Wall Street broker who resided in Montclair. According to George Clark, who moved to the Valley Farm at Lusscroft in 1923 when he was two years old, James Turner made a fortune in the sugar trade before the First World War. He describes Mr. Turner as “a nice man” who was “good for the community.” He recalled how James Turner told his farm manager, Ed Decker, after the Stock Market Crash of October 1929, that any local farmer who came to Lusscroft looking for work should be given a job, even if it was only painting a barn.



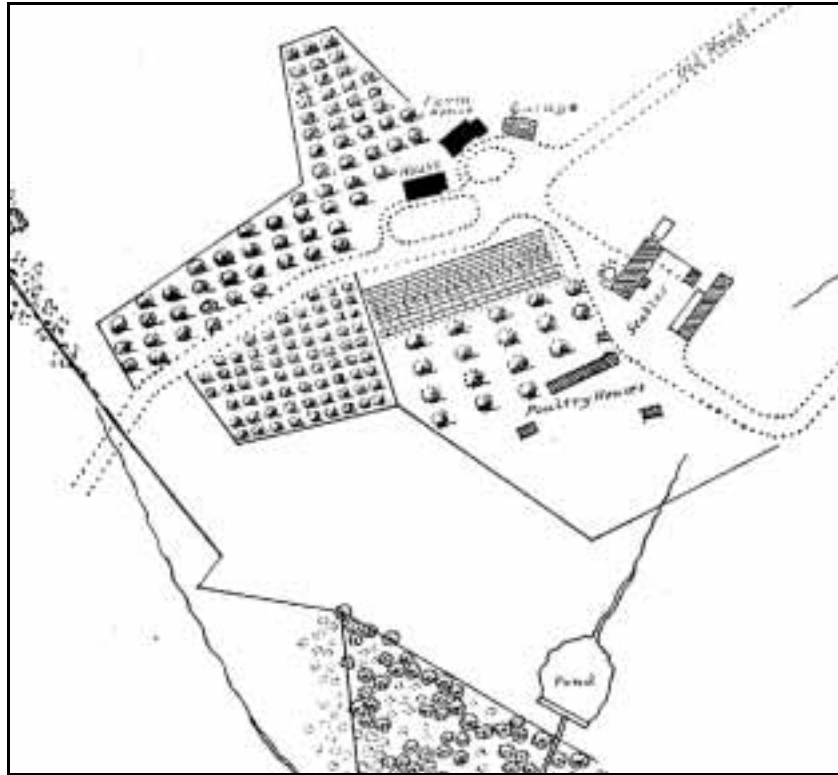
**Figure 3. James Turner (at left) and his brother, Dr. William Turner, stand in front of their Lusscroft mansion.**

Clark also remembered Turner being driven in a large car by a chauffeur named Mike. On one occasion, Mr. Turner drove up and asked George and his brother to go into his orchard and pick a bushel of apples for him. The Clark boys selected the biggest and brightest apples and returned to the car. Mr. Turner thanked them but provided no tip for their services.

James Turner first purchased land in the Wantage hills in May 1914. Twenty workmen were reported putting the finishing touches upon his dwelling in September 1916. Turner's residence, where he spent every available weekend, remains Lusscroft's crowning beauty. There is also an adjacent farm manager's dwelling, partly built of stone.

Clinton W. Kellam, of Newton, designed the superb garage. The Milliken-Kellam Company built it to accommodate three automobiles in 1916 at a cost of several thousand dollars. By contemporary description, it had "a half dozen slightly sleeping rooms ... on the second floor; ... bathrooms, shower baths, draining system, original system of raising doors for admission of cars and everything to suit the fancy and delight the heart of the experienced automobilist."

Under Edward Decker's management, the herd of 230 purebred Guernsey cows became one of the finest herds in the dairy region. According to a report in the *Sussex Independent* on September 18, 1916, there was "a fine Jersey dairy upon the Turner farm, each sire being worthy to adorn the pages of the most expensive printed catalogue issued by the most exclusive publishing houses in the country. A specialty is also made of poultry, prime Leghorn fowls having the preference. These aristocratic appearing fowls are so comfortably housed that the fierce mountain gales bring to them no terror. There are also turkeys, proud gobblers and fine hens, and well bred swine."



**Figure 4. 1918 Map of Lusscroft Farm, James Turner, Owner**

James Turner reportedly spent \$500,000 in improving Lusscroft Farm alone. All of the Holsteins were registered animals and the herd averaged 12,000 pounds of milk and 400 pounds of butterfat per year. About 80% of the Guernseys were registered and all were used to produce market milk. Lusscroft actually comprised four adjoining farms, the Home, Valley, Meadow, and Wyker Farms, encompassing about 700 acres. Its electrically lighted “Ultra-Modern Barns” had stanchions for 85 cows, automatic water troughs, and artificial ventilation. The Belle Ellen Farm in Beemerville consisted of two farms, the Beemer and Newbegin Farms. Until shortly before the time of Turner’s donation, White Leghorns were raised on the Newbegin Farm, which had facilities for 1,500 birds.

The Turner properties included several employees’ cottages. To make larger, better drained and more easily cultivated fields, hedgerows were pulled out and miles of stone fences buried in hand-dug trenches. Following the example of Turner’s uncle, James N. Jarvie, owner of the nearby Belle Ellen Stock Farm, alfalfa pastures were cultivated for the hogs. A calf barn was built behind the main barn, outfitted with calf stalls, maternity boxes, and bullpens. George Clark states that James Turner “paid N. J. Power & Light to run lines on Route 23 to Lusscroft and to the farms in Beemerville.” This brought electricity to this rural neighborhood. Lusscroft was also equipped with a three-ton truck and a delivery car.

The Home and Meadow Farms at Lusscroft originally (1918) included six tracts of woodland: (1) a tract of about 27.3 acres on the mountain crest, above the Pump House, where oak and hickory predominated; (2) a woodlot of approximately 6.5 acres bordering the stream along the southwest side of the Home Farm, extending about three-tenths of a mile south from the dam of the Ice Pond; (3) a nearly triangular tract of 9.2 acres lying between 155 and 370 feet northwest



of County Route 519; (4) a tract of approximately 15.5 acres at the easternmost edge of the Meadow Farm, east of County Route 519 and the Big Ditch; (5) a tract of about 4.1 acres bordering the head of the east branch of the stream, extending from Neilson Road at the northeast boundary of the Home Farm south to Brink Pond; and (6) about 6 acres of Sugar Bush, bordering the outlet stream from Brink Pond along the east side of Home Farm Lane. The Sugar Bush must have been logged, since few large maples remain in the glen at the outlet of Brink Pond. James Turner planted a stand of red pine at Lusscroft in 1916.

There were originally (1918) five orchards: (1) an orchard of about 2.75 acres extending partly up the hillside from the rear of the Farm House and the Turner Residence, extending southwest along Neilson Road; (2) a peach orchard encompassing about 1.3 acres, located on the southeast side of Neilson Road and west of the Gardener's Storage House; (3) an orchard covering about 2 acres surrounding the Hennerly and Brooders on the southwest side of Home Farm Lane, opposite the main barn; (4) an orchard of about 1.6 acres bordering Home Farm Lane to the southwest and extending about 500 feet along County Route 519; and (5) another orchard of about 2 acres, located northwest of the intersection of County Route 519 and Home Farm Lane, located behind the Meadow Farm residence, and bordering Home Farm Lane for approximately 200 feet.

The Meadow Farm, bisected by County Route 519, takes its name from a large tract of meadow, covering about 18 acres. This meadow is ditched east of County Route 519, the drainage system being called the Big Ditch.

Three swales are located in the lowland along County Route 519: (1) one swale of about 2.2 acres lies about 160 feet northwest of County Route 519 and about 600 feet southwest of the Lusscroft Gate House on Home Farm Lane; (2) a triangular swale covers about 1.25 acres bordering the outlet stream from the Meadow Farm Pond to its intersection with the Big Ditch; and (3) another swale partly intrudes across the northeast boundary of the Meadow Farm, where the Big Ditch exits the property.

The central portion of the Home Farm at Lusscroft was an open field, used as either pasture or cropland, extending for seven-tenths of a mile from north to south and 0.45 miles at its widest, east to west. The steeply sloping ground beyond the Turner Residence and Farm House was originally open pasture, extending about 2,200 feet along the mountain. This slope is now densely wooded.

Lusscroft Farms contained two gardens: (1) one acre of garden extended about 350 feet west from the intersection of Neilson Road and Home Farm Lane, being located below the stone wall bordering Neilson Road, opposite the Turner Residence; and (2) another garden, encompassing about an acre, was located northwest of the intersection of Home Farm Lane and County Route 519, adjacent to the Meadow Farm House.

The main farm complex originally consisted of a barn, silo, and adjacent manure shed; calf stalls and an appended milking shed; an icehouse and ice pond, a large hennerly and two brooders. The residence, farmhouse and garage stand northwest of Neilson Road. The Meadow Farm, situated on County Route 519, consisted of a barn, springhouse and icehouse, standing alongside the Meadow Farm Pond.

Never fully satisfied with his country manor, Turner added a splendid spiral staircase in 1928, at a cost of several thousand dollars. At this time, he also had the west piazza enclosed for a paneled living room. He added the stone garden grotto and viewing deck, a vaulted vegetable cellar and renovated the Manager's Dwelling (Farm House). A residence was built on the Meadow Farm at about this time.

James Turner built a spectacular "Lookout cabin" atop the ridge in 1930 for his brother, Dr. William Turner. Workmen scavenged antique timbers from twenty-five barns and houses for use in its construction. Jersey white pine boards from Asher Snook's Branchville saw mill cover the floors and ceiling. Being an alumnus of Amherst College, Turner obtained a heavy oak panel from Lord Jeffrey Amherst's castle in Kent, England, which he proudly displayed on a wall beside the brick inglenook of his mountaintop retreat.



**Figure 5. Northwest side of Outlook Lodge, showing decorative chimney back**

#### *The North Jersey Dairy Branch of the NJ Agricultural Experiment Station*

Wishing to promote agricultural research and education, James Turner donated his Lusscroft, Newbegin and Belle Ellen Farms, totaling 1,050 acres, to the State of New Jersey in 1931. It was one of the first dairy farms in the United States to be used as a research project. His gift included 250 head of Guernsey and Holstein cattle, horses, tractors, and a complete line of farm machinery. He then retired to California, where his three brothers and a sister resided.

The new dairy research farm, encompassing six farms with modern dairy buildings and numerous cottages for married help, opened in May 1931. It was appropriately named the "James Turner Institute for Animal Research." The Turner Mansion was adapted for the Administration Building. Laboratories, offices and residences were located in adjacent buildings.

Professor John W. Bartlett became the Supervisor, assisted by Professor Carl B. Bender and H. H. Tucker. J. L. Hamilton, who had charge of the Belle Ellen Farms for fifteen years, was retained as farm manager and given responsibility over all the farms, men, cattle and fieldwork. Professor Bartlett took charge of the Holstein herd at Belle Ellen, while Holstein sires were kept at Lusscroft. The Belle Ellen Farm produced most of its own feed, but the cattle at Lusscroft were fed from purchased stocks. Thereafter, both farms produced their own feed. Bulls were sold to dairymen, often with the Experiment Station retaining a half interest.

Experiments with different kinds of lime and fertilizers for pasture improvements and field crops started immediately. Soil samples were taken and test plots used to ascertain the results. Oats and peas were sown for hay. Soybeans and Sudan grass were grown for forage. One field of 34 acres was laid out in experimental plots and seeded with alfalfa, with a nurse crop of barley and oats to be harvested for grain and straw. About 85 acres of corn were grown for silage. A large tonnage of alfalfa and clover hay was harvested in July 1931.

Several barn fires between November 1931 and May 1932 had the unintended consequence of fostering innovations. A mechanical hay drier, capable of drying 40 tons of hay daily, was part of the equipment of the new barn built on the Belle Ellen Farm in February 1932, to replace the one destroyed by fire the previous November. The plans for the new barn, completed in June 1932, called for two one-story units of hollow tile construction, each housing 120 cows. There were four huge silos, two for 500 tons of corn silage, and the other two for 250 tons of artificially dried hay. Insurance received for the barn destroyed by fire covered the building costs.

The hay drier was a metal cylinder about 15 feet long, mounted on rollers, and heated by oil burners. Hay was brought directly from the field, containing about 70% moisture. It was cut in short pieces and dropped into the first chamber of the cylinder, where a temperature of 1,500 Fahrenheit was maintained. As the cylinder rotated, the intense heat drove out the moisture from the hay which, becoming lighter, was sucked into the adjoining chambers. It required only four or five minutes for the hay to be carried from the first to the last chamber, where a temperature of only 250 degrees was maintained, and to be blown into a cooling cylinder, from which it was bagged or blown into the silo. According to Professor Bartlett, the hay drier entirely eliminated weather as a factor in curing hay. Research indicated that it also retained nutrients in the hay that were lost when hay was sun cured. Bartlett reported, "Experiments show that artificially dehydrated hay seems to be several times more efficient in its growth-promoting qualities than is naturally dried hay." He also said, "The artificially dried hay in a dairy ration apparently replaces one third of the concentrated feeds that are needed when field-cured hay is fed. The cost of artificially drying hay, including labor for cutting, drying, and storing, is about \$7 a ton." Various experiments were conducted to determine more fully the feeding value of artificially dried hay and also its effect on the vitamin content of milk.

The "milking parlor" was another innovation of the new barn. Two men, using a combine machine milker, were able to milk 70 cows an hour under conditions that Professor Bartlett said were "a great improvement" from the standpoint of sanitation. Instead of milking the cows as they stood in their stanchions, they were taken three times daily to the milking parlor. A vacuum was used to draw the milk through milking machines, over coolers, and into storage. Besides being more sanitary, this arrangement speeded up the work of milking by 10 or 15%. The long-time experiment planned in hope of breeding a family of Holstein cows that would give milk testing 4% butterfat was ongoing.

A fire of suspicious origin destroyed the calf barn and milking shed, behind the main barn at Lusscroft, in May 1932. A new masonry-block laboratory was raised on its foundations.

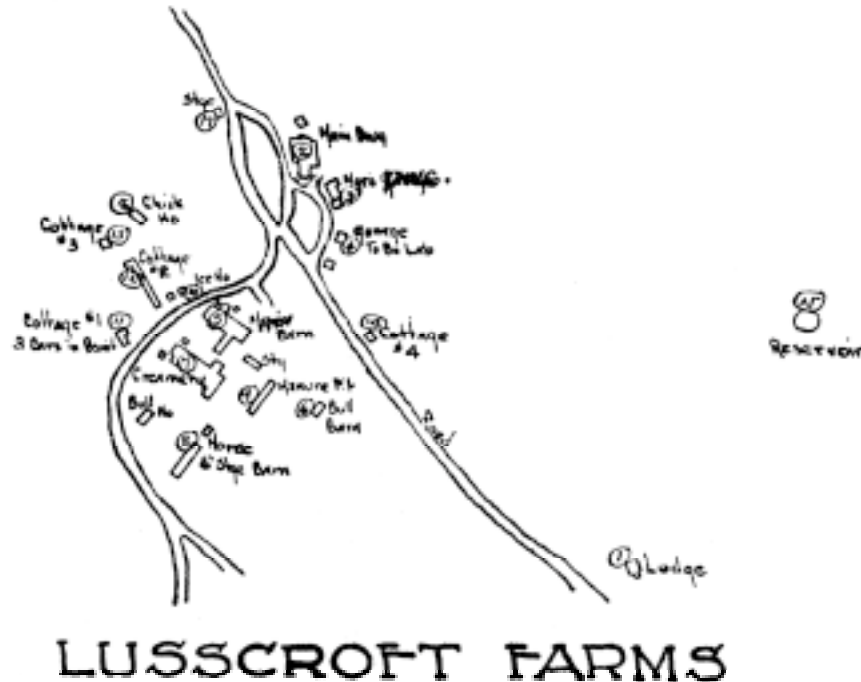
The 108<sup>th</sup> meeting of the Sussex County Pomona Grange No. 2 was held in the form of a picnic at Lusscroft Farm on Saturday, July 16, 1932. H. H. Tucker, the superintendent of the North Branch Experimental Station, acted as guide for the nearly 300 grangers and friends who attended. He noted that the hunting lodge was constructed of timbers from twenty-five old barns, the floors and door hinges being fastened with wooden pins, and the door lock decorated with a coat of arms. The lodge contained a chair, made from the horns of cattle, and an English carving from Lord Jeffery's castle. Using the vantage from the front of the hunting lodge, Mr. Tucker explained the research projects being undertaken on each of the farms comprising the new North Branch Experimental Station

After visiting the Main House, the grangers visited Belle Ellen Farms, where they saw the hay drier in operation and the new barn that was being built to replace the one destroyed by fire. At the Belle Ellen, they also saw a new method of fastening cows so as to give them greater freedom of movement, using a chain around the neck rather than a stanchion. The cows were taken to another part of the barn used exclusively for milking. Finally, the grangers returned to the grove at Lusscroft for a cafeteria luncheon. The Selected Risks Indemnity Company provided the afternoon's entertainment, featuring the Ritz Quartette, Sonia, the Russian Accordionist, and Ann Requel, soprano of Maplewood.

The annual summer meeting of the New Jersey State Holstein Association was held at the North Branch Experiment Station on August 20, 1932. Dairymen witnessed one of the most interesting selective breeding experiments ever conducted in cattle breeding, involving the development of a family of Holsteins testing nearly 4% butterfat. Other features of the program included pasture fertilization plants, artificial hay drying, a judging contest by junior dairymen and an exhibit depicting Holstein history. Dr. L. M. Thompson, President of the Holstein-Friesian Association of America, spoke of his recent visit to Holland. Breeders of Holstein cattle in New Jersey, Pennsylvania, Delaware, Maryland, New York and New England attended.

On Monday afternoon, August 5, 1932, a fire, believed to have started from spontaneous combustion in the hayloft, destroyed the barn, a tool and machine shed, and icehouse at the Meadow Farm. The Sussex and Beemerville Fire Departments responded, but the barn was nearly down by the time they arrived. They pumped water for two hours in an attempt to save two other buildings. The loss was estimated at \$25,000.

Thirty-eight head of cattle were in the barn at the time the fire was discovered by persons in the home of Augustus Gregory, across the way. Milking had just been completed and the cows were being fed at the time. Harold Gregory and L. R. Hubert were able to drive out the cattle, so that there was no loss of livestock, except eleven chickens near the tool shed. The house was kept sprayed with chemicals to save it



**Figure 6. Map of Lusscroft Farm made in 1932, when it became the Dairy Research Farm.**

Dr. Jacob G. Lipman, director of the State Agricultural Experiment Station in New Brunswick and dean of the New Jersey College of Agriculture, instituted four basic research programs at the North Jersey Dairy Branch of the State Agricultural Experiment Station. These programs covered livestock breeding, nutrition, disease control, and economic management practices. With money from the Legislature, he purchased a foundation herd of 40 cows and four Holstein sires from Vermont breeders in the fall of 1931. His intent was to increase the average butterfat content in Holstein milk from 3.5% to 4%. The blood of *Ormsby Sensation 45<sup>th</sup>*, one of the original sires, proved outstanding in various degrees of inbreeding, line breeding and outcrossing. Under the supervision of Dr. John W. Bartlett and Professor K. Otto Pfau, a herd of 146 females was bred, capable of producing milk with an average 4% fat.



**Figure 7. Ormsby Sensation 45<sup>th</sup>, the famous Lusscroft sire.**

Herd sires were housed at Lusscroft Farm. Two of the very first sires born at the farm were *NJES Sensation Ormsby Bess Chief* and *NJES Sensation Charlot Conqueror*. Both were sired by *Ormsby Sensation 45<sup>th</sup>*, through daughters of *45<sup>th</sup>*.

According to Calvin Wettstein, a former researcher at Lusscroft, many Holstein sires were developed bearing the *NJES* prefix between 1931 and about 1960. Many *NJES* bulls were sold to dairymen, with the State Agricultural Experiment Station retaining a half interest. Before artificial insemination was introduced in 1938, farmers organized “bull rings.” A young sire would be used in one herd for a year or two and then be moved to another ring member’s farm (Calvin Wettstein, personal correspondence, April 4, 2002).

By the time the Dairy Research Farm commenced operations in 1932, market trends already favored large-scale city milk processors and distributors. Small-time dealer-producers generally operated on the edge of the metropolitan market, selling raw milk bottled on their farms from house to house. Their operations centered upon a single individual, who carried out farming operations besides handling distribution, assisted by a limited number of laborers. Few farmer-dealers were equipped to pasteurize milk in 1930.

At first, only dealers on the edge of the metropolitan market brought milk from farmers to city plants. But as the suburbs spread, truck routes were pushed farther back into the countryside and an increasing volume of milk was hauled from New Jersey farms directly to city plants for processing and distribution. Country milk plants steadily vanished. By 1930, trucks directly hauled 48% of New Jersey milk to market.

Relieved of farm operations, large-scale dealers catered to large numbers of urban and suburban customers, operating retail and wholesale routes from central distribution facilities. By 1930, the New Jersey Agricultural Experiment Station reported that “many [milk] dealer-producers are well advanced in years and, as their sons frequently have turned to other occupations, the retirement of their fathers will bring the present operations to a close.” As consumers shifted their patronage to specialized milk dealers, the diminishing volume of business, cut prices from competition with large dealers, and small profit margins steadily eroded the number of dealer-producers.

The North Jersey Branch of the New Jersey Agricultural Research Station responded to the needs of dealer-producers, helping them remain competitive. Research into cattle breeding focused on herd efficiency and improving the quality and quantity of milk production. In 1932, the New Jersey State Agricultural Experiment Station maintained 180 Guernsey cows and 6 bulls at Lusscroft Farm. The Belle Ellen Stock Farms maintained a herd of 60 Holstein cows and 3 bulls. Early research with the Guernsey herd investigated factors affecting milk color, using a Pfund color grader and an improved grader, which Station personnel developed at Beemerville. Research station employees provided creamery inspection services.

Civilian Conservation Corps Camp No. 2, described as a tent camp, was established at Lusscroft in April 1933. The recruits engaged in reforestation projects. This camp moved to High Point State Park after engineers completed a survey and leveled the ground to establish Camp Kuser about 1,900 feet from Lake Marcia in October 1933.

Dr. Carl Bender conducted the long-term research program in all aspects of grassland farming. He is particularly noted for his pioneering work with grass silage, filling silos as early

as 1933. He perfected the technique of cutting fields of alfalfa and orchard grass, blowing it into wagons, and dripping molasses onto the product as it was taken through pipes into the silo. Under his direction, researchers investigated silo construction, new methods of storing grasses and legumes, the use of preservatives, feeding practices, crop combinations, and better techniques and machinery for harvesting and storing.

The Rutgers University trustees approved the appointment of Dr. Carroll H. Ramage to the dairy industry department, effective July 1, 1936. Dr. Ramage specialized in the effects of high nitrogen fertilizer on the protein content of grasses at the Beemerville research farms, where he continued work as an assistant professor. A native of Ohio, Dr. Ramage held degrees from Oregon State University.

About ninety acres of demonstration pastures were developed at the Belle Ellen and Wyker Farms. Ladino clover, later found on most New Jersey pastures, was first seeded at Belle Ellen in 1937. Field tests were also made for combinations of tall growing pasture plants, such as brome grass and Ladino, orchard and Ladino, and birdsfoot trefoil and timothy. These combinations partly replaced the use of bluegrass on many farms. The research branch of the Soil Conservation Service established conservation plots and weather stations on the Lusscroft and Wyker Farms in 1936 to study the effects of soil loss and water run-off on pastures and hay land. These studies proved the value of grass-legume crops in minimizing erosion.

With grants from the Legislature and the Rockefeller Institute in 1937, Dr. James Murphy inaugurated studies for detecting and controlling mastitis, a virulent udder disease in high-producing dairy cows. He developed an important modification of the Whiteside test, used by veterinarians to treat this disease.

Enos J. Perry, Extension Dairyman at Rutgers, observed the novel use of artificial insemination in cattle on a visit to Denmark in 1937. He involved the New Jersey Holstein Association in organizing the first artificial cattle-breeding cooperative in the United States, with the first cows being bred in May 1938 on the Peter Van Nuys farm (now covered by the waters of the Spruce Run Reservoir). Cooperative Artificial Breeding Unit #1 used three bulls bred at the North Dairy Branch of the State Agricultural Experiment Station: H-1 NJES Sire *Mutual Ormsby Jewel Alice*, owned by Peter Van Nuys and the State Agricultural Experiment Station; H-2 *Career* and H-3 *General*, also NJES sires. A Sussex County cooperative was organized in November 1938, using sires from Lusscroft. By 1956, almost 40% of New Jersey's dairy cows were bred artificially.

Through a grant from the Herman Frasch foundation in 1940, Dr. Willis King conducted extensive feeding trials comparing the value of molasses grass silage, phosphoric acid grass silage, ground grains grass silage and corn silage. His research resulted in significant changes in cattle feeding practices, especially in the larger use of roughage in the diet and a reduction in the protein content of the grain mixture. (*Twenty-five Years of Grassland and Dairy Research 1931-1956, Dairy Research Farm, Beemerville, NJ*, p. 7)

A study was undertaken at Beemerville in 1939 to investigate lateral and horizontal silo pressures, losses from seepage and spoilage, and damage to silo walls from erosion, particularly in concrete stave silos. (*Twenty-five Years of Grassland and Dairy Research 1931-1956, Dairy Research Farm, Beemerville, NJ*, p. 6) Professor Harry E. Bensley, a Rutgers Agricultural

Engineer, used grants from the National Silo Association, the American Steel and Wire Company, and the Portland Cement Association, to perfect methods of strengthening silos.

In 1945, a grant from the Limestone Products Corporation allowed Dr. Robert Mather to research the effect of added calcium in a cow's ration. He began a long-term trial in 1947 to study the cumulative effect of mineral balances by adding six minor elements and rather large amounts of calcium. Preservatives were also tested. In particular, the use of molasses as a silage preservative was investigated. Molasses was also sprayed on hay for direct feeding of young livestock from an open tank.

Professor Bruce Poulton and Dr. Robert Mather also completed projects on the milk producing potential of grass silage and on chopped forage fed directly from the field. To help relieve the economic hardships confronting dairy farmers, Carroll Ramage, Dr. Robert Mather and Professor Claude Eby conducted research projects in 1952 and 1956 that resulted in the production of higher yields per acre and the utilization of higher protein roughage.

Better methods for curing hay, with or without heat, became a priority after the Second World War. Using a system developed by Professor Mark E. Singley, of the Agricultural Engineering Department, to shorten the drying process, a 112 by 40 foot hay storage barn was constructed at Beemerville, including a dual batch drier.

An existing storage building at Lusscroft was remodeled in 1948 to provide additional laboratory space for chemical and physiological studies. Dr. John Mixner headed research into cattle semen metabolism and physiology, frozen semen, the physiology of the thyroid and adrenal cortex as related to productive characteristics, ketosis, and stress and liver functions in dairy cattle. (*Twenty-five Years of Grassland and Dairy Research 1931-1956, Dairy Research Farm, Beemerville, NJ*, p. 6)

Continuous field-testing of experimental models of grassland machinery began in 1948. Grassland and Dairy Field Day programs were held in 1932, 1936, 1938, 1940, 1946, 1947, 1948, 1950, 1954 and 1956 (and almost annually thereafter until the Research Station closed in 1970). The Twenty-Fifth Annual Grassland Field day was held at Beemerville on August 30, 1956. Approximately 40,000 people visited the Dairy Research Farm in its first twenty-five years of operation. Boy Scouts, 4-H, Future Farmers of America, Sunday school and church groups used the Outlook Lodge almost every week. Busloads of city children came to the Dairy Research Farm for their first experience of rural life.

Beginning in 1940, more than 50,000 evergreens were planted on land unsuited for pasture or crops. Professor Richard F. West, of the Forestry Department at Cook College, and Austin N. Lentz, an extension specialist in farm forestry, established a demonstration Scotch pine and black locust plantation on the Skellenger Farm in 1955. Other aspects of the forestry program included Christmas tree varieties, wood lot and farm fence post management. Professor West converted the Outlook Lodge into dormitories for forestry students in his summer program, adding bathrooms and a kitchen in 1956. The program was active until 1975.

Among the notable Rutgers faculty who worked at the Dairy Research Farm, some of the most notable were: Dr. John P. Mixner, Dr. Robert Mather, Dr. Karl Otto Pfau (who lived on the Valley Farm), Dr. John Bartlett, head of the Dairy Department at Rutgers, Carroll H. Ramage, and Dr. Carl Bender, who did pioneering work in the field of grassland farming.





**Figure 8. Dr. John W. Bartlett (center) and (left to right): Dr. Robert E. Mather, Dr. K. Otto Pfau, Alden Mercier, Professor Claude Eby, Dr. Carroll H. Ramage, and Dr. John P. Mixner.**

Graduate students from Rutgers College came to Lusscroft to work on their advanced degrees. Calvin Wettstein worked on the farm crew at Lusscroft during the summer of 1947 when he was between his Junior and Senior years at Rutgers. He returned as a graduate student in July 1948, working as an assistant researcher on a two-year Masters degree in dairy cattle breeding. He took over responsibility for the bull barn and herd health in 1949. He was called back into military service for nineteen months in 1951-52. He again worked at the Agricultural Experiment Station from 1952 to 1956, when he took employment with the New Jersey Cooperative Breeders Association in Annandale, New Jersey.

Besides those already mentioned, a list of staff published in 1956 also includes: Dr. William G. Robertson, Charles Breidenstein, Matthew Freund, Harry Lennon, Walter Monastyrski, Richard Washer, Alden Mercier, William Amidon, George Bell, Percy DeGroat, Fred Gould, Maynard Longcor, Parker McIntyre, Edward Perry, Kasper Petrolevitch, Andrew Pullis, Paul Setnick, Percy Skellenger, Charles Beemer, Roy Beemer, Richard Eby, William Longcor, Edward Sanders, Albert Brink, J. Benjamin Demarest, Donald Eby, Judd Howell, Kenneth Raser, Ira Van Atta, Pat Davies, Kenneth Raser, Jr., Paul Ross, Frank VanHorn, Mary McNally, Doris DeGroat, and Roberta W. Eby.

The Dairy Research Farm enjoyed its heyday in the 1940s and 1950s. Although there were still some bulls kept at Lusscroft in later years, the artificial breeding program, once the focal point of the North Jersey Branch of the Agricultural Experiment Station, was dying out. By that

time, Clinton, New Jersey, had become the leading center for work in artificial insemination with dairy livestock. Dairying in Sussex County took a heavy hit when New York prohibited the purchase of New Jersey milk for its schools.

Edwin Francisco, a son of Herbert and Christine Francisco, was born in May 1922 and raised on his parent's dairy farm in West Caldwell, New Jersey. He graduated from the University of Maryland in 1946 with a degree in Animal Science. His college studies were interrupted by three years' military service in Germany and France with the 100<sup>th</sup> Infantry Division. He worked successively on the P. H. B. Frelinghuysen Farm in Morristown, Forthgate Farm in Jamesburg, and the Benton Farm in Blairstown. He served as the Dairy Branch's last Herd Supervisor from 1966 to 1970.

Ed Francisco, who resided on the Wyker Farm, recalled four professors associated with the dairy research facilities when he arrived in 1966. Dr. Ralph Mitchell, Dr. Robert Mather (who resided in the Jarvie House on the Newbegin Farm), Dr. Al Mange (who resided in the Manager's Dwelling), and Dr. Carroll Ramage (who specialized in field crop research and who lived in the Meadow Farm House on County Route 519). Dr. Mitchell and Ed Francisco had their offices on the first floor of the converted garage building; Dr. Mather's office was upstairs.

A housekeeper resided in quarters in the north end of the Guest House (Turner Mansion), where visiting staff from New Brunswick still stayed on occasion. Mrs. Mary McNally and Albert Brink took care of the house and grounds, beginning in 1931. Eda Van Horn was the resident housekeeper during Ed Francisco's tenure. Mr. Francisco recalls that professors on the New Brunswick campus used to refer to Lusscroft as the "country club." He also remembers forestry students occupying the Outlook Lodge for their summer programs.

When Ed Francisco was supervisor, about a hundred cows were kept at Belle Ellen Farm in Beemerville. Five men, including herdsman Ed Perry, did the milking and took care of the veal calves. Claude Eby was supervisor in the heyday of field crop research. His son, Dick Eby, drove the milk tanker to New2 Brunswick four days a week. He did a meticulous job keeping the tanker clean.



**Figure 9. Lusscroft Farm in 1956.**

Research conducted at the North Jersey Dairy Branch of the New Jersey Agricultural Experiment Station, particularly in genetic improvements to dairy herds, yielded lasting benefits of worldwide impact. The careful breeding and efficient feeding of milk cows resulted in a considerable increase in milk production per cow and the total production of milk. In 1939, New Jersey's total production of milk amounted to 101,930,364 gallons as compared with 64,003,953 gallons in 1889. The increase was about 59%, yet there were 22,000 or so more milk cows in 1889 than in 1939. (Dimitry T. Pitt and Lewis P. Hoagland, *New Jersey Agriculture, Historical Facts & Figures, Circular No. 339*, The State of New Jersey Department of Agriculture, [Trenton: 1943], p. 344)

The Lusscroft and Beemerville facilities closed in July 1970. Ed Francisco transferred the remaining herd to New Brunswick, where he became supervisor of the Animal Science Department at Cook College, with an office in Bartlett Hall. Rutgers University retained 576 acres at Lusscroft for its 4-H Youth Center for Outdoor Education. Development of the camp facilities began in July 1971 under the direction of Thomas J. Murphy, Associate 4-H Extension Leader, who coordinated the 4-H residential camping program. It opened in July 1973 with 900 campers. Rutgers reserved another 97 acres for an ongoing forestry research project.

The 4-H Camp closed in 1996 because of declining enrollment and maintenance expenses. Rutgers ceded control of Lusscroft to the State Park Service in January 2002. It is presently administered by High Point State Park.

## STATEMENT OF SIGNIFICANCE

Lusscroft embodies the rare survival of an intact model dairy farm, built by Montclair stockbroker James Turner, between 1914 and 1930, according to the most up-to-date principles of scientific agriculture. In almost every particular, his plan incorporated the recommendations of agronomists and livestock breeders for maximum efficiency, diversification, and profitability. Consequently, this agrarian landscape, with its variety of farm buildings and residences, uniquely preserves a sense of the heyday of the signature dairy industry of northwestern New Jersey, from the period when Sussex County grazed the world's largest herd of registered Guernsey cattle.

Through James Turner's generous donation of almost 1,050 acres to the State of New Jersey in 1931, the North Jersey Dairy Branch of the New Jersey Agricultural Experiment Station operated at the Lusscroft and Belle Ellen Farms until 1970. Research conducted at the North Dairy Branch, especially in the fields of genetic improvements to dairy herds, grassland farming, grass ensilage, improved nutritional values in food and feed, and production testing, yielded lasting benefits of worldwide impact. The first use of artificial insemination for the improvement of dairy herds in the United States, conducted by pioneer researcher Enos J. Perry in 1938, involved Lusscroft sires.

Lusscroft possesses great geologic interest and significance. Rutan Hill, adjacent to Lusscroft Farm, is geologically significant as one of only two exposures in New Jersey of nepheline syenite, a very rare type of igneous rock. Lusscroft is the only place in New Jersey to see an extinct volcano (in this case, 440 million years old) and also sedimentary rock that has been thermally altered by baking due to the high temperature of the nepheline syenite intrusion.

Lusscroft Farm falls within the boundaries of two Natural Heritage Priority Sites: the Wallkill River Macrosite (B4), which contains occurrences of globally rare State Endangered animal species and several other State threatened animal species; and the Papakating Creek Natural Heritage Site (B3) which contains good occurrences of a globally rare State Endangered reptile (rare turtles) and additional occurrences of State threatened animals, and a State Endangered plant species.

Lusscroft presents a unique opportunity to protect and enhance the habitat for grassland-dependent bird species in the Great Limestone Valley, which are declining regionally, as well as nationally.

## STATEMENT OF PURPOSE

In consideration of his “interest in agricultural research and education, and in furtherance of human progress and welfare, and also in establishing and maintaining under the direction of the State of New Jersey Agricultural Experiment Station, a Northern New Jersey branch to deal with the breeding, nutrition and control of diseases of dairy cattle, and with the economic operation of dairy farms,” James Turner, of Montclair, donated 1,049.958 acres in Wantage, Montague and Frankford Townships to the State of New Jersey on April 2, 1931 to establish a North Jersey Dairy Branch of the Agricultural Experiment Station and for other research and educational purposes (*Sussex County Deed Book 323*, p. 489). He wished that the terms of the original agreement be “liberally interpreted and that the property ... be used in every expedient way toward promoting social progress and welfare.” On March 31, 1931, the New Jersey Legislature passed an enabling act, which accepted the se properties a gift to the State.

On August 10, 2000, the Historic Preservation Office, Division of Parks and Forestry, determined (HPO-H2000-71) that “the Experimental Station, including its staff housing, barns and fields, is clearly eligible for listing on the National Register for its association with the development of agricultural techniques, especially the development of artificial insemination.”

By a Memorandum of Understanding, the New Jersey Department of Treasury, Division of Property Management & Construction, transferred jurisdiction over 577.86 acres in Wantage and Montague Townships, formerly utilized by Rutgers, the State University, as an Agricultural Research Center, to the Department of Environmental Protection (DEP) “for the use of the Division of Parks & Forestry.” (See Appendix A)

By this MOU, the Department of Environmental Protection “accepts the use of, jurisdiction and control over, and responsibility for the maintenance of, at the cost and expense of the Department of Environmental Protection, all those certain tracts or parcels of land and the improvements thereon situate, lying and being in the vicinity of Beemerville ...” which were utilized in the past as the North Jersey Dairy Branch of the Agricultural Experiment Station. Certain (as yet undefined) parts of this property are “restricted to agricultural purposes as determined by the State Agriculture Development Committee [SADC].” The SADC is permitted to leases the areas identified in Attachment B (not included in the MOU) for farming purposes, conforming to “the standard agricultural lease” which is described as Attachment C. The DEP further agrees to convey a development easement to the SADC

restricting the areas under agricultural leases to agricultural users. However, the DEP is “responsible for the overall management, operation and security of all areas of the ‘Beemerville’ tract including the overall management of the sites subject to Attachment B leases for non-agricultural purposes.”

The MOU additionally stipulates that public recreational hunting is permitted on the non-leased portion of the tract and that SADC tenants may obtain depredation permits from the DEP’s Division of Fish & Wildlife or agree to open the leased lands for public recreational hunting. Private recreational hunting is not permitted.

A fully executed copy of this Memorandum of Understanding, transferring jurisdiction of the Beemerville property from Rutgers University to the Department of Environmental Protection and the State Agriculture Development Committee, was included as an attachment to a memorandum, dated January 23, 2002, sent from Gene Hayman, Chief of the Bureau of Real Property, Disposals & Acquisition to Carl Nordstrom, Deputy Director, Division of Parks & Forestry, Department of Environmental Protection. The 577.86 acres covered by this Memorandum of Understanding are assigned to the administration of High Point State Park.

Therefore, the New Jersey Department of Environmental Protection, in cooperation with the State Agriculture Development Committee, shall preserve the agricultural character of Lusscroft Farm so as to protect valuable wildlife habitat, especially for species of grassland-nesting birds, and to promote a broad public appreciation and enjoyment of its scenic, recreational, and cultural values, focusing particularly on its significant role in New Jersey’s agricultural history and its inherent capacity to illuminate significant geologic, ecologic and historic features of the Wallkill watershed.

## **VISITOR EXPERIENCE OBJECTIVES**

Visitors will discover learning opportunities focusing upon New Jersey’s rural heritage, especially its agricultural history, allowing them to comprehend the contributions of scientific agriculture to the improvement of livestock and crops, dairy processes, and farm machinery.

Visitors will be able to experience rural life by walking through farmyards, fields, woodlots, barns, and dwellings. Agricultural use for Lusscroft is mandated, yet it should be done in ways that accommodate and educate the public. In this regard, all opportunities for interpretation should be explored.

Visitors will find opportunities to understand and appreciate the interwoven value of historical, forest, grassland and water resources in forming a cultural landscape protected through a comprehensive stewardship ethic.

Visitors will be able to enjoy and appreciate sweeping scenic views of the Kittatinny Valley, to develop an understanding of how this rural landscape originated, and what the future may hold under changing uses of the land.

Visitors will find educational and recreational opportunities to socialize with family and friends, and to make new acquaintances of others who share their interests, in a safe, relaxed learning environment.

Visitors will be able to find solitude, healthful exercise, knowledge and inspiration in a variety of natural and cultural settings, and to experience a rich variety of wildlife and plant communities.

Lusscroft shall provide a palette of opportunities for visitors to experience and enjoy:

1. Outdoor recreation, including hiking, camping, picnicking, wagon and sleigh rides, birding, wildlife viewing, ice skating, horseback riding, photography, drawing and painting, and hunting.
2. Educational and inspirational experiences, including agricultural technical tours, school tours, art exhibits, native plant and garden tours, historical agriculture exhibits, animal feeding, canning classes, nature walks, heirloom plant and animal exhibits, and rural heritage food and craft shows.
3. Entertainment, possibly including concerts, special events, thematic exhibitions, harvest festivals, flower shows, and barn dances.
4. Hospitality services, including direct agricultural sales, guided gallery and farm tours, and dissemination of relevant technical and recreational information, food services, restrooms, and gift-shop items of educational value.



**Figure 10. View to the north. Note cattle pass under road at left and bullpen at center right.**